2007 NH House Bill 694

An act establishing a commission to study the feasibility of tidal power generation under the Little Bay and General Sullivan Bridges.

NHDOT Newington-Dover Project

4+ lane bridge to be added between the existing Little Bay and General Sullivan Bridges

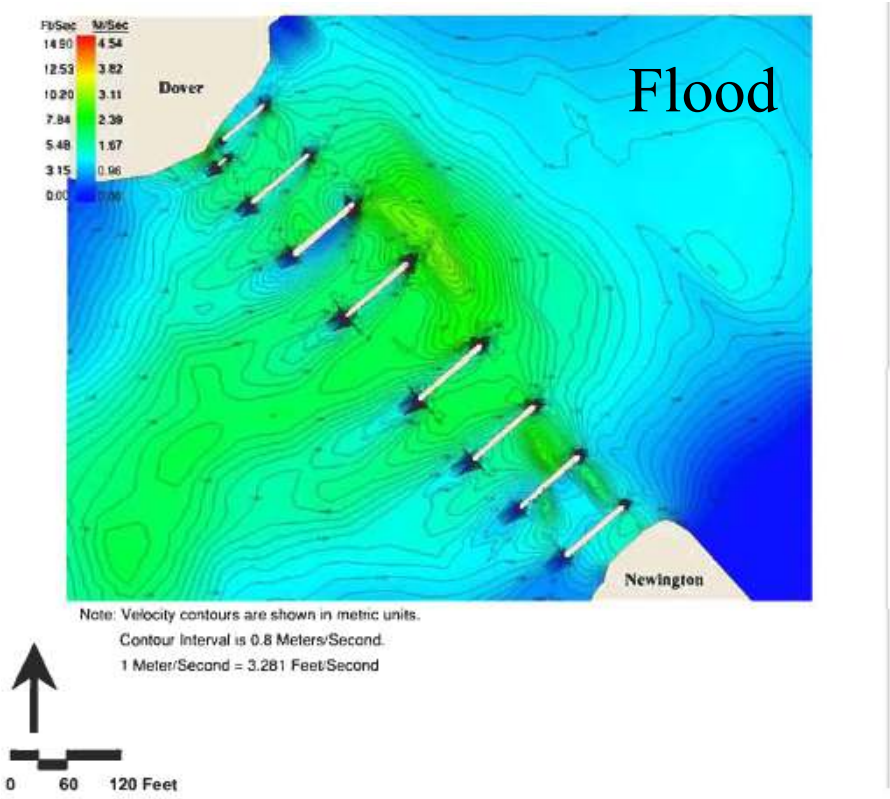
http://www.newington-dover.com/images/photo11.jpg

Widen and Upgrade Existing Bridges

Support piers to be joined together into 200-foot-long structures.

Tidal Current Modeling

Newington-Dover Draft EIS Figures 4.10-11 & 4.10-12



Vanasse Hangen Brustlin, Inc.

Figure 4.10-11
Maximum Flood Currents for
Case Study 5 (Combined Piers)

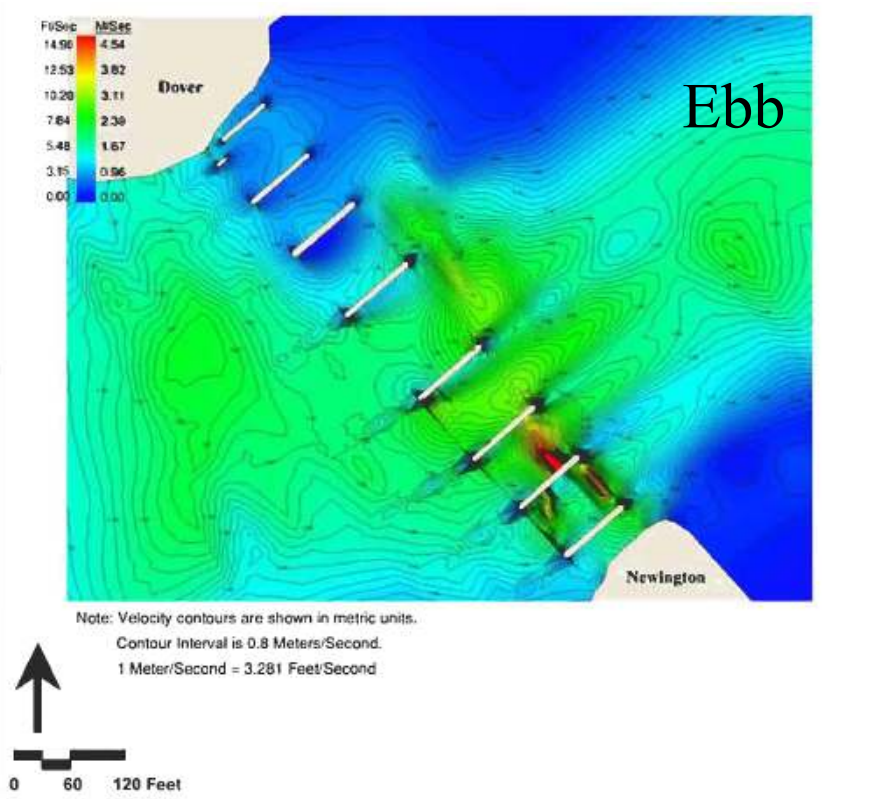


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Figure 4.10-12
Maximum Ebb Currents for
Case Study 5 (Combined Piers)

Combined Pier, Case Study 5

Hydrodynamic Data

NHDOT Newington-Dover Draft EIS

Area of Estuary System Upstream of Bridges:

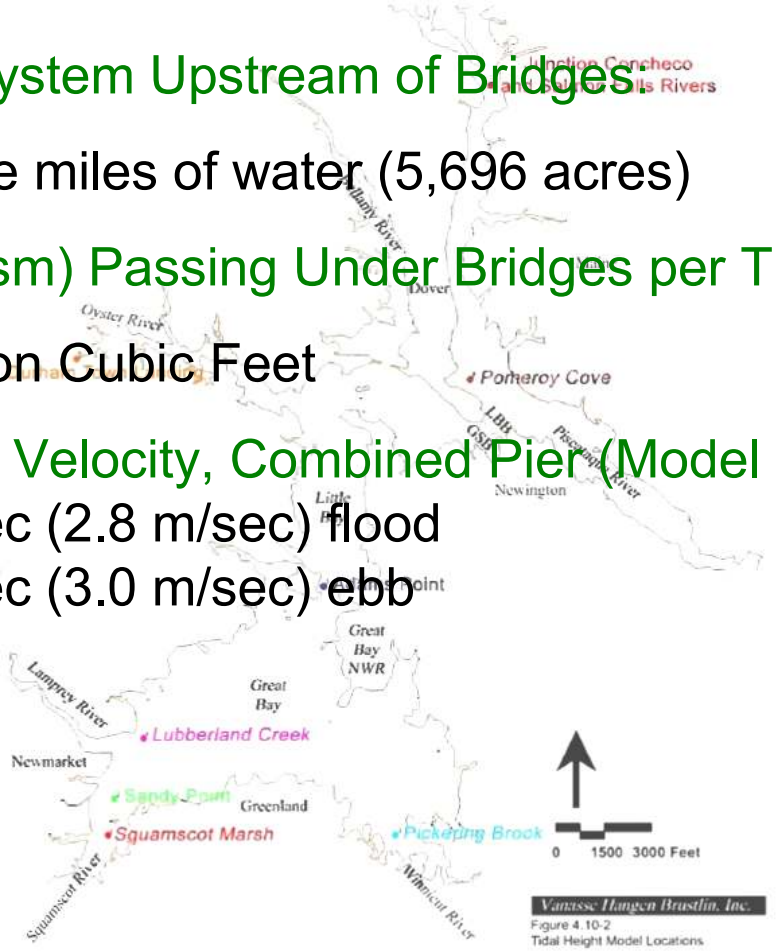
8.9 square miles of water (5,696 acres)

Volume (Tidal Prism) Passing Under Bridges per Tide Cycle:

1.29 Billion Cubic Feet

Maximum Current Velocity, Combined Pier (Model Case 5):

- 9.2 ft/sec (2.8 m/sec) flood
- 9.8 ft/sec (3.0 m/sec) ebb

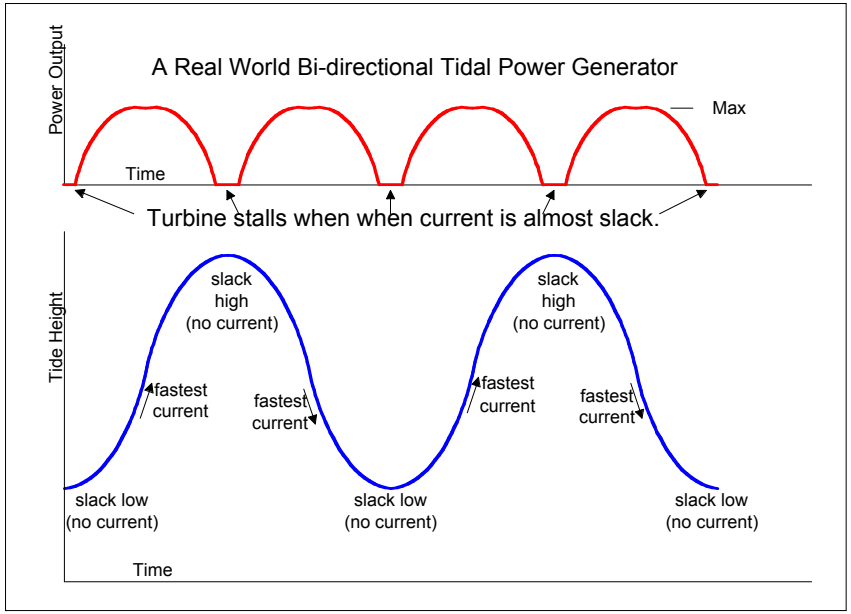


Why study tidal energy generation under bridges?

Predictable, unending energy source.

Statistics (from Jack Pare):

- Must pass through 23,000 square feet (approx 1/2 acre).
- Two-knot “stall point” is less than 25 minutes.
- Zero velocity seldom exceeds 10 minutes.
- Can yield a capacity factor of around 60%.



Why study tidal energy generation under bridges?

Footprint controlled by State of NH.

- Entire generating area within NH.

Linear array, tidal fence.

- Less chance of fishing gear entanglement than with open channel dispersed arrays.
- Less impediments to navigation.
- No large ships pass under bridges.

HB 694 Study Commission

Proposed Members (as bill was introduced):

- Three members of the NH House of Representatives.
- Two members of the NH Senate
- One Representative from each of the following:
  - NH Department of Transportation
  - NH Office of Energy & Planning
  - NH Public Utilities Commission
  - Public Service Company of NH
  - Federal Energy Regulatory Commission
  - City of Dover
  - Town of Newington
  - NH Estuaries Project
  - NH Department of Environmental Services
  - NH Department of Fish and Game
  - Pease Development Authority
  - NH Commercial Fisherman's Association
  - One Member of the Public Appointed by the Governor

HB 694 Study Commission

Proposed Duties (as bill was introduced):

- Identify and collect technical and sociological data, and investigate regulatory requirements necessary to determine the feasibility of building the tidal power generating system. These data shall include:
  - Regulatory impediments.
  - The public's and business community's attitudes toward the project.
  - Environmental impacts.
  - The cost and benefits of the project.
- Identify lead agency to coordinate the efforts of the Commission.

HB 694 Study Commission

Proposed Duties (as bill was introduced):

- Determine if NH should solicit vendor proposals for building the tidal power generating system. If so, the Commission shall:
  - –Develop specifications for requesting proposals.
  - –Evaluate the vendor's proposals.
  - –Participate in the selection and approval of the preferred vendor
  - –Proposed legislation necessary for the project to proceed.
  - •Submit Interim Report by November 1, 2007
  - •Submit Final Report by November 1, 2008